



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.



FIG. 1. NEST AND EGGS OF LESSER SCAUP DUCK.

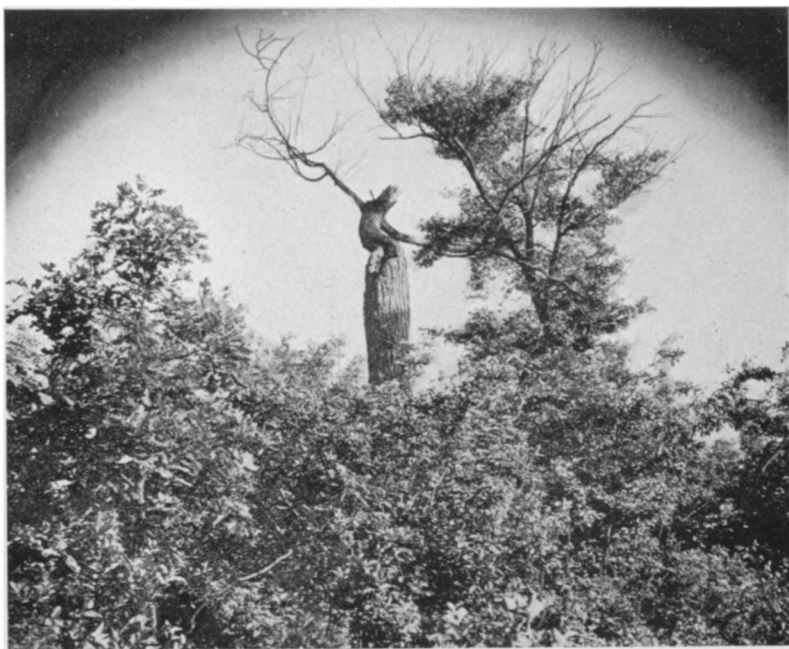


FIG. 2. NEST OF AMERICAN GOLDEN-EYE.

NESTING HABITS OF THE ANATIDÆ IN NORTH
DAKOTA.

BY A. C. BENT.

*Plates V and VI.**(Concluded from p. 12.)****Aythya affinis* (Eyt.).** LESSER SCAUP DUCK.

Although not universally abundant the Lesser Scaup Duck can undoubtedly be found during the breeding season in the immediate vicinity of all the larger lakes, and in certain localities is so very abundant as to form what might be regarded as breeding colonies. The centre of its abundance seems to be the Devils Lake region, but we also met with it occasionally elsewhere in Nelson County and on Fullers Lake in Steele County. Its larger relative, the American Scaup Duck, probably breeds sparingly in North Dakota, but I have no evidence to prove it and am inclined to think that if it occurs there at all it is extremely rare. The difficulty in distinguishing the two species in the field might, however, lead one to overlook the rarer species in many cases. These two Scaups can of course be easily separated from all other ducks in the field by the conspicuous white speculum which shows very plainly in flight, and by the short stout build of the bird. The eggs can also be easily identified by their darker and richer color, which I should describe as a rich olive buff; the lightest types approach somewhat the darkest types of the Mallard's eggs, and the darkest types are rich dark buff or deep coffee-colored. The measurements of 26 eggs before me show the following figures: length, 2.36 to 2.10; breadth, 1.64 to 1.53, and average 2.26 by 1.59.

The nests we found were all placed on dry ground but never more than fifty yards from the water. They were generally rather poorly concealed in the prairie grass but in some cases, where the grass grew thick and high, they were fairly well hidden. The nest consisted of a hollow scooped in the ground, profusely lined with very dark colored, almost black down, mingled with a little

dry grass and occasionally a white feather from the breast of the bird. (Pl. V, Fig. 1.)

The principal breeding grounds of this species are the two small islands described under my notes on the Gadwall and Baldpate, where we found all three species nesting abundantly. The Scaups are late breeders, the majority of their eggs being laid during the second week in June or later. On our visit to these islands on May 31, we found only one set of 9 fresh eggs, while on June 15 we found no less than 12 nests; on the larger island, which we explored quite thoroughly, we found three nests of 11 eggs, two nests of 10 eggs, two nests of 9 eggs, and one nest of 5 eggs; on the smaller island, where we made only a hurried search during a driving rain storm, we found only four nests, one of which contained the unusually large number of 15 eggs.

All of these eggs that we collected, three or four sets, proved to be fresh or nearly so. The nests were almost invariably concealed in the taller prairie grass, but one nest was located under a small rose bush and one was placed against the side of a small rock surrounded by tall grass. The Scaup Ducks are close sitters, as we always flushed the bird within ten feet of us or less, and when once flushed they seem to show no further interest in our proceedings. They lay occasionally in other ducks' nests; we found one of their eggs in a Gadwall's nest and one in a White-winged Scoter's nest; but we found no evidence that other ducks ever lay in the Scaup's nests.

The males apparently desert the females after incubation is begun and flock by themselves or with other ducks in the sloughs or small ponds.

***Aythya collaris* (Donov.). RING-NECKED DUCK.**

This being one of the rarer ducks in North Dakota during the breeding season, I have very little of value to add to its life history from personal experience. It breeds quite commonly throughout the State of Minnesota, where it is one of the commonest ducks, and in North Dakota is probably more often found breeding in the valley of the Red River of the North, in the

eastern portion of the State, and in the Turtle Mountain region, than elsewhere; it is certainly rare in the prairie region and the Devils Lake region visited by us. My field experience with the Ring-necked Duck was very limited and was based on very unsatisfactory evidence, but I will give it for what it is worth.

On June 12, while exploring some extensive wet meadows about the sources of a branch of the Goose River in Steele County, I flushed a strange duck from her nest; she flew away at first for a hundred yards or so and then returned circling past me two or three times within gunshot, so that I had a fairly good look at her; I judged from her appearance and gait that she was a Scaup, but could not see that she possessed the conspicuous white speculum so characteristic of both the American and the Lesser Scaup. Not being satisfied with the identification I made two subsequent visits to the nest, intending to shoot the bird, but she was too quick for me the first time, and was not there the second time. The following day we all visited the nest and attempted to creep up cautiously and shoot the bird, but she rose before we were near enough to stop her.

The eggs were unmistakably Scaup's and, as we could not identify the bird as either of the other species, we concluded that they must belong to the Ring-necked Duck. The nest was well concealed in thick grass in a rather open place in the meadow about ten yards from the river; it was made of bits of dry grass and thickly lined with very dark gray down. The ten eggs which it contained were nearly fresh, and are not separable in size, shape or color from those of the Lesser Scaup.

Mr. Job found a nest of the Ring-necked Duck in the Turtle Mountains, where he started a female from her nest on June 14, 1898. I quote from his notes in 'The Auk' for April, 1899, as follows: "It was in a reedy, boggy bayou, or arm of a lake, which was full of Bitterns, Black Terns, and Bronzed, Red-winged and Yellow-headed Blackbirds. I was on my way out to photograph a Bittern's nest already found, and was struggling along more than up to my knees in mud and water, when a smallish Duck flushed almost at my feet from some thick dead rushes, disclosing twelve buffy eggs, nearly fresh. The clear view within a yard of the pearl gray speculum and the total absence of white on the

wing told the story. She alighted nearby in open water, and gave me and my companion such fine opportunity to study her with the glass and note every detail of her plumage, both as she sat and as she flew back and forth before us, that it was not necessary to sacrifice her for identification. Nothing was seen of the male."

Dr. Bishop also flushed two or three ducks from their nests, in Nelson County in 1901, which he supposed to be Ring-necked Ducks, but he did not positively identify the bird in either case.

Clangula clangula americana (Faxon). AMERICAN GOLDEN-EYE.

In the heavily timbered regions about the shores of the larger lakes the Golden-eyes may be found breeding quite commonly, even abundantly in certain localities where the conditions are favorable. Along the shores of these lakes the heavy timber grows in narrow belts, except on the points or promontories, which are often entirely covered with trees, forming a forest of considerable extent. The largest trees are elms which sometimes tower above the rest of the woods to a height of 50 or 60 feet. The swamp oaks grow to a considerable size and approach the elms very closely in height. Cottonwoods and box elders form a large part of the timber but do not equal the first two species in size. The woods thus formed are usually rather open and the large trees somewhat scattered, giving an opportunity for smaller trees and underbrush to grow beneath them. The timbered areas of the State being restricted to these narrow strips, which form such a small part of the total area, has led to overcrowding of the woodland species of birds until the woods are fairly alive with them. Bronzed Grackles fairly swarm here in almost countless numbers, and the smaller trees, as well as many of the larger ones are filled with their nests. The soft cooing of Mourning Doves is heard on all sides. The clamorous cries of the Arkansas Kingbirds are constantly ringing in one's ears. The woods are full of Western House Wrens flitting nervously about and pouring out their joyous, bubbling notes. Purple Martins are sailing about overhead, or

building their nests in the hollows in the treetops. Baltimore Orioles, Rose-breasted Grosbeaks, Clay-colored Sparrows, Red-eyed and Warbling Vireos and Yellow Warblers help to swell the chorus and keep the air constantly full of song. I have never seen such an abundance of bird life, not even in the height of the migrations, as is to be found in these narrow belts of timber. Besides all these small birds the Golden-eyes have for their companions numerous pairs of Swainson's Hawks and occasional pairs of Ferruginous Rough-legs and Krider's Hawks, nesting in the tops of the taller trees.

The Golden-eyes choose for their nesting sites the numerous natural cavities which occur in many of the larger trees. They seem to show no preference as to the kind of tree and not much preference as to the size of the cavity, any cavity which is large enough to conceal them being satisfactory.

The occupied cavity can usually be easily recognized by the presence of one or two pieces of white down clinging to its edges; sometimes considerable of the down is also scattered about on the nearest branches. The first nest that we found, on May 30, was in an exceedingly small cavity in a dead branch of a small elm, about 10 feet from the ground. We heard a great scrambling and scratching going on inside as the duck climbed up to the small opening, through which she wriggled out with some difficulty and flew away. I measured the opening carefully and found it only 3 inches wide by $4\frac{1}{2}$ inches high; the cavity was about 3 feet deep and measured 6 inches by 7 inches at the bottom. The 8 fresh eggs which it contained were lying on the bare chips at the bottom of the cavity, surrounded by a little white down.

On June 1 we explored a large tract of heavy timber on a promontory extending out into the lake for about half a mile, where we located five nests of the American Golden-eye.

The first nest was about 20 feet up in the cavity in the trunk of a large swamp oak and contained four eggs, apparently fresh. The second was in the trunk of a large elm and held only one egg, evidently a last year's egg. The third, which held five eggs, was in an open cavity in an elm stub about 12 feet from the ground. None of these eggs were taken and doubtless the sets were incomplete.

While climbing to a Krider's Hawk's nest I noticed an elm stub

near by with a large open cavity in the top, which on closer investigation was found to contain a Golden-eye's nest with 10 eggs buried in a mass of white down. The stub was about 10 feet high and the cavity about two feet deep; the bird was not on the nest but the eggs proved to have been incubated about one week.

This nest is shown in the accompanying photograph (Plate V, fig. 2), which also shows the Krider's Hawk's nest in the elm in the background. A pair of Western House Wrens also had a nest in the dead branch above the cavity.

The fifth and last nest was found while walking along the shore, by seeing the Golden-eye fly out over our heads from a small swamp oak on the edge of the woods. I could almost reach the large open cavity from the ground; the opening was well decorated with the tell-tale down, and at the bottom of the cavity, two feet deep, was a set of 14 eggs, in which incubation had begun, and one addled last year's egg, completely buried in a profusion of some white down, so well matted together that it could be lifted from the eggs without falling apart, like a soft warm blanket.

The eggs of the American Golden-eye are entirely different in color from any other ducks' eggs to be found in this region, which varies from a clear pale malachite green in the lighter specimens to a more olivaceous or pale chromium green in the darker specimens.

The measurements of 17 eggs in my collection are as follows: length, 2.58 to 2.37; breadth, 1.77 to 1.66; and average 2.46 by 1.71.

***Oidemia deglandi Bonap.* WHITE-WINGED SCOTER.**

Although generally considered to be very rare during the breeding season in North Dakota, we found the White-winged Scoters nesting in fair numbers in certain restricted localities in the Devils Lake region, which probably forms the extreme southern limit of its breeding range. We saw isolated pairs occasionally flying or swimming about in the large lakes, where it breeds in small colonies on the islands with the Gadwalls, Baldpates and Lesser Scaups, or on the shores of the lakes not far from the water. The nests are

admirably concealed from view in thick clumps of small bushes, almost invariably wild rose bushes, which at this time are in full bloom. It is no easy matter hunting for the nests among these stout, thorny bushes, and as the eggs are generally buried under the down, and a mass of rubbish scraped over them, we undoubtedly overlooked a number of them.

The Scoters are very late breeders, the latest of all the ducks, very few of their eggs being laid before June 15, and the majority of them not before the last week in June. We visited two of the islands where they breed on May 31, but did not find a single egg. On June 15 we again explored the same islands quite carefully, finding only one incomplete set of 5 eggs, cold and fresh. This nest was in the centre of a small patch of rose bushes, where a hollow had been scraped in the ground and the eggs buried under a lot of dry leaves, sticks, soil and rubbish, so as to be completely concealed from view; no attempt had been made to line the nest with down which is generally added after the set is complete. The scattered clumps of rose bushes on these islands, particularly on the smaller islands where they grow tall and thick among a mass of large boulders, form excellent nesting sites for the Scoters and doubtless concealed several nests. One nest we certainly overlooked, which on June 22 was found to contain 12 eggs.

Mr. Job visited these islands on June 27, 1898, and found eight nests of the White-winged Scoter containing "14, 13, 10, 10, 7, 6, 1 and 0 eggs respectively" (see Auk, April, 1899, p. 163), which proves conclusively that these birds are late breeders, as all of these eggs were fresh.

The eggs of the White-winged Scoter are much larger than those of the other ducks in this region, and are entirely different in color, which is a pale salmon buff or flesh color.

The measurements of my five eggs are as follows: length, 2.71 to 2.58; breadth, 1.94 to 1.89; average, 2.65 by 1.90.

The eggs of the Scoters are occasionally found in other ducks' nests; we found one in a Baldpate's nest, two in a Lesser Scaup's nest, and one in another Baldpate's nest.

***Erismatura jamaicensis* (Gmel.). RUDDY DUCK.**

We must return again to the innermost recesses of the deep water sloughs, the home of the Canvas-back and the Yellow-headed Black-bird, to study the habits of this handsome little duck, where we are almost sure to find them in every suitable slough. The male, in his full nuptial plumage, is a striking and showy bird as he swims in and out among the reeds or floats about in the open water at a safe distance with the male Canvas-backs and Redheads. He is easily distinguished by his short stout body, his tail pointed upwards or even forwards, his white cheeks and the rich deep red on his back. The female is very shy, the shiest of all the ducks, is seldom seen, and skulks away from her nest when she hears anyone coming; we never were able to flush one from the nest and never even saw one near her nest; nor did we ever see any evidence of parental devotion or anxiety.

In the large deep water sloughs of Steele County there are extensive tracts of tall reeds, often higher than our heads, growing so thickly and closely that nothing can be seen through them at a little distance. In these excellent hiding places the Ruddy Duck conceals its nest, and so well is this done that even after the nest has been once found it is extremely difficult to locate it again. The nests are well made of reeds, closely interwoven, built up out of the water, held in place by the growing reeds, well concealed from view and generally with the live reeds arched over them; they were, as a rule, very sparingly lined with a little dull whitish down, but, as all the eggs we examined were fresh, possibly more down would have been added later. We found in all five nests of the Ruddy Duck in these two sloughs in Steele County; a description of two of them will give a fair idea of them all.

A nest found on June 10 was located among some rather open tall reeds in water knee deep, and was made of dry reeds and a little down; the rim of the nest was about 7 inches above the water and it measured about 7 inches across, the cavity being about 4 inches deep. The 10 eggs which it contained were nearly fresh. This nest is shown in the photograph (Pl. VI, Fig. 1).

Another nest, found on June 11 and collected two days later,



FIG. 1. NEST AND EGGS OF RUDDY DUCK.



FIG. 2. NEST AND EGGS OF CANADIAN GOOSE.

was admirably concealed in the middle of a large area of tall thick reeds where the water was about a foot deep. It was beautifully made of dead and green reeds, artistically interwoven and firmly attached to the growing reeds about it. The dimensions were practically the same as the foregoing nest. It contained 6 eggs, which proved to be almost fresh. The photograph [not here reproduced] gives but a faint idea of the beauty of this nest, and the artistic manner in which the green reeds were arched over above it, forming an effective and a picturesque screen for the pure white eggs.

All our records tend to prove that the Ruddy Duck is one of the later breeders, as all the sets we found during the second week in June were either incomplete or fresh.

That the Ruddy Duck occasionally lays in other duck's nests was proven by our finding one of their eggs in a nest of the Canvas-back. The eggs of the Ruddy Duck are always unmistakable; they are extremely large for the size of the bird, more rounded than the other ducks' eggs, pure dull white in color, and have a rough granular shell peculiar to this species. They vary somewhat in shape from short ovate to elongate ovate.

The 15 eggs before me measure as follows: length, 2.67 to 2.38; breadth, 1.87 to 1.70; average, 2.49 by 1.80.

***Branta canadensis* (Linn.). CANADA GOOSE.**

There are still quite a number of Canada Geese breeding within the limits of North Dakota, but they are apparently not as abundant as formerly and will undoubtedly be driven further west and north as the country becomes more thickly settled. We found several of their nests, but for some unaccountable reason we did not see a single Goose. It is not likely that we could have overlooked such a conspicuous and well marked bird, but, as the nests we found were all deserted, it is probable that the birds had all moved off with their broods to other sections where we could not find them.

They nest on the islands in the larger lakes and in the sloughs, building two entirely different types of nest in the two localities.

They are very early breeders, laying their eggs early in May, and hatching out their young generally before the first of June. One of their nests, found on a small island inhabited by a colony of Double-crested Cormorants, Ring-billed Gulls and a few ducks, was merely a depression in the bare ground among scattered large stones, lined with a few sticks and straws and a quantity of down. This nest, on May 31, had apparently been deserted for some time.

In a large slough in Nelson County, on June 2, we found a deserted nest containing three eggs, the broken shells of those that had hatched being scattered about the nest. It was in a shallow portion of the slough where the dead flags had been beaten down flat for a space fifty feet square, and not far from a Redhead's nest. The nest was a bulky mass of dead flags, three feet in diameter and but slightly hollowed in the center.

A similarly located nest was found in a slough in Steele County on June 10 (shown in Pl. VI, Fig. 2). This contained only one egg which had failed to hatch and was, like the other nest, within a few yards of a Redhead's nest. The proximity of these two Redheads' nests to the nests of the Geese may have been merely a coincidence, but it suggests the possibility that it was done to gain the protection of the larger bird. This suggestion was somewhat strengthened when I saw a skunk foraging in the vicinity; undoubtedly these animals find an abundant food supply in the numerous nests of ducks and coots in these sloughs.

The eggs of the Canada Goose are a dull dirty white, and the 3 eggs in my collection give the following measurements: 3.60 by 2.40, 3.61 by 2.41, and 3.50 by 2.37.